

DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA

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IN THE MATTER OF NorthWestern Energy's) REGULATORY DIVISION
Application for Approval to Purchase and)
Operate PPL Montana's Hydroelectric Facilities,) DOCKET NO. D2013.12.85
for Approval of Inclusion of Generation Asset)
Cost of Service in Electricity Supply Rates, for)
Approval of Issuance of Securities to Complete)
the Purchase, and for Related Relief)

**HUMAN RESOURCE COUNCIL, DISTRICT XI
NATURAL RESOURCES DEFENSE COUNCIL
RESPONSES TO THE DATA REQUESTS OF
THE MONTANA CONSUMER COUNSEL**

MCC-203

Regarding: Cost of Electricity
Witness: Thomas Michael Power

Please provide in electronic format all data, workpapers and worksheets used in preparation of the figure on page 19 of your testimony and titled "The Impact of Different Carbon Costs on the Levelized Cost of Electricity from Portfolios Built Around the Hydros vs. a CCCT."

Response:

See the CD labeled PSC-237 and PSC-246 with files labeled:

First link_MCC-154 Curve Calculator 6-7-13_power consulting.xlsx

Second link_Exhibit__JMS-1 and JMS-2 & p. JMS-20_power consulting.xlsx

Third link Resource Comparison Charts and Table p. JMS-38_power consulting.xlsx

Power Consulting Impact of Carbon Cost Assumptions Levelized Costs

The last file listed, a MS Word file provides an explanation and instructions of how the files were linked together and manipulated.

MCC-204

Regarding: Comparison of Alternative Portfolio Cost
Witness: Thomas Michael Power

- a. Please provide all data, workpapers and spreadsheets used in developing the table shown on page 30 of your testimony and titled “Comparison of the Alternative Portfolio Cost if the Costs of Risk are Zero.”
- b. Please provide the output of the runs of the stochastic model (PowerSimm) that produced the data requested in part a).
- c. Please provide the list of specific inputs used in your runs of the stochastic model that differed from those used by NWE in preparation of the supplemental stochastic modeling presented in Mr. Stimatz’s supplemental testimony dated February 2014.

Response:

- a. See the CD labeled PSC-237 and PSC-246, file labeled:

Testimony Tables PC.xlsx, Sheet 1

- b. Dr. Power did not make any runs of the stochastic model, PowerSimm. See the file referred to in a. above.
- c. See a. and b. above.

MCC-205

Regarding: Comparison of Alternative Portfolio Cost
Witness: Thomas Michael Power

- a. Please provide all data, workpapers and spreadsheet used in developing the table shown on page 31 of your testimony and titled “Comparison of the Alternative Portfolio Cost if the Generators Have No Residual Value.”
- b. Please provide the output of the runs of the stochastic model (PowerSimm) that produced the data requested in part a).

- c. Please provide the list of specific inputs used in your runs of the stochastic model, as referred to in part b) of this data request, that differed from those used by NWE in preparation of the supplemental stochastic modeling presented in Mr. Stimatz's supplemental testimony dated February 2014.

Response:

- a. See Response to MCC-204 above.
- b. See Response to MCC-204 above.
- c. See Response to MCC-204 above.

MCC-206

Regarding: Comparison of Alternative Portfolio Cost
Witness: Thomas Michael Power

- a. Please provide all data, workpapers and spreadsheet used in developing the table shown on page 32 of your testimony and titled "Comparison of the Alternative Portfolio Cost if Both the Costs of Risk and Residual Generator Values are Zero."
- b. Please provide the output of the runs of the stochastic model (PowerSimm) that produced the data requested in part a).
- c. Please provide the list of specific inputs used in your runs of the stochastic model, as referred to in part b) of this data request, that differed from those used by NWE in preparation of the supplemental stochastic modeling presented in Mr. Stimatz's supplemental testimony dated February 2014.

Response:

- a. See Response to MCC-204 above
- b. See Response to MCC-204 above.
- c. See Response to MCC-204 above.

MCC-207

Regarding: Carbon Costs in Electric Resource Acquisition Planning
 Witness: Thomas Michael Powers *[sic]*

On page 6 of your testimony you state that in the states of Alaska, Arkansas, Hawaii, Indiana, Louisiana, Michigan, Mississippi, North Carolina, Oklahoma, South Carolina, and Tennessee at least one electric utility included carbon costs in electric resource acquisition planning. Please list these electric utilities by state, the cost or costs of carbon they assumed, the implementation date or dates they assumed, and escalation rate or rates these utilities used and also list whether they also included a scenario of carbon having a cost of zero.

Response

The citation for these values is found on p. 6, line 11-12 of Dr. Power's testimony. The utilities and states are shown in the figure on page 11 of Dr. Power's testimony which is taken from the document cited under the figure.

See the CD labeled PSC-237 and PSC-246 and the response to PSC-246(a).

The figure on page 11 shows the implementation date and the rate of escalation. The figure also shows that there was only one utility with a base scenario involving a zero carbon cost (Avista).

MCC-208

Regarding: NorthWestern Mean Carbon Prices
 Witness: Thomas Michael Powers *[sic]*

On page 9 of your testimony you state that out of the 13 Western electric utilities NorthWestern used for comparison purposes only Tacoma Power projected lower mean carbon prices than NorthWestern. You go on to state on page 12 of your testimony that NorthWestern summarized those 13 Western utilities' carbon prices by averaging the low, medium, and high estimates unless the low estimate was of zero, in which case it was excluded. If the zero estimates were not excluded, would Tacoma power still be the only utility with a lower mean carbon price than NorthWestern? If not please state which utility or utilities would have lower mean carbon price values than NorthWestern. Please replicate the graph shown on page 10 of your testimony with the mean carbon prices for the utilities shown calculating the mean with a low price of zero included.

Response:

Dr. Power did not review all of the IRPs from which the data in NWE's figure showing other utilities' assumed carbon costs. NWE made clear how it developed the figure Dr. Power reproduced on page 10 of his testimony. Dr. Power was just repeating what NWE had said about

how it had approached its summary of all of this data on Western utility IRP carbon cost assumptions.

As Dr. Power pointed out, this tended to increase the statement of other utilities' "average" carbon value. That was one of the reasons that Dr. Power presented the Synapse set of utility carbon costs. It was a geographically broader group of utilities and presented the utility base case, not an average of some of the cases. As a result, one utility, Avista, was shown with a zero base case carbon cost projection.